ABSTRACT

The present invention relates to the identification of antibodies which are specific to human B7.1 antigen (CD80) and which are capable of inhibiting the binding of B7.1 to a CD28 receptor and which are not capable of inhibiting the binding of B7.1 to a CTLA-4 receptor. Two of these antibodies, 16C10 and 7C10, significantly inhibit the production of IL-2, in spite of the existence of a second activating ligand B7.2 (CD86). Blocking of the primary activation signal between CD28 and B7.1 (CD80) with these antibodies while allowing the unimpaired or coincident interaction of CTLA-4 and B7.1 and/or B7.2 represents a combined antagonistic effect on positive co-stimulation with an agonistic effect on negative signalling. These antibodies may be used as specific immunosuppressants, e.g., for the treatment of autoimmune diseases and to prevent organ transplant rejection.